

Work Order ID 150473

150473

Page 1

Wednesday, August 24, 2016 12:01:20 PM

Item ID: D350-636-014

Accept

N900040100

Setup Start

N.S1

Revision ID:

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

N.S2

Start Date: 8/12/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 1.00

1

Customer:

Reference:

DAS

Run Start

NR1

Approvals: Process Plan: 21 9-89

Date: AUG 30 2016

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number Insp.
Stamp

Draw Nbr Revision Nbr

D2750-044 G

NON 7 9 7016

DAS 6 9-89

DAS 21 9-89

16-11-29

100

Document Control

0.00

DOCUMENT CONTROL

1000

DC

Memo

0.00

Doc Control -USB or Paperwork

record fwd angle:

89.8°

8-16-09-20

DEC 02 2016

Photocopy blue file and type labels per PPP D350-636-014 CHG 007

DQA:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only



Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				Work Order update only			
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier			
NCR No. _____											
Date: _____		Step #:		QTY Effective:		MRB (QS1042) Approval					
Description Work Order Deviation				Disposition							
								Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause				FAULT CATEGORY							
Environment		No Re-verification		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong	
Design		Operator		Bending		Set-up		Folio/Program		Outside Dimensions	
Doc/Data		Offset/Setup		Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance	
Equip/Tooling		Supplier		Cracks		Broken/Damage/Defect		Weld		Part Incorrect	
Handling/Pre		Training		Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified		Wrong Stock Pulled		Part Lost/Missing	
Material		Use for Testing		Cuffs		Contamination		Out of Sequence		Part Moved	
Internal Transport		Poor Information		Crushing		Countersink		Off-set		Drawing	
Tribal Knowledge		Rushing		Heat Treat		Cut Too Short		Mislabeled		Finish	
LOA		Product Improvement		Wave/Twist in Tube		Instructions Incomplete/Unclear		Fit/Function		Misread	
Substation		Process Improvement		Marks/Chatter		Drill Holes		Misaligned/off center		Turning Sequence	
Past Expiry Date		Manufacturing Process									
Misidentified		Past Due									
				OTHER:							

Work Order ID 150473

Wednesday, August 24, 2016 12:01:20 PM

150473

Item ID: D350-636-014
Revision ID:

Accept

N9000040100

Setup Start

NS1

Item Name: Skidtube RH, Sid Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

110

Skidtubes

Memo

0.00

1- Pick D2600-3 Bent

2- Debur FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side.

ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE

Drill pilot holes as per Dwg D2750 sheet 4 (D2750-4 details). Drill using drill jig DT8150 & DT8864A for second side only DT8864B for first side (detail B)

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE.

6- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

7- Open up holes of Detail A-A to 0.297" (total of 2 holes per side)

8- Weld D2744 Cap as per Dwg D2750 and OSI 004. Fill grooves in bend left from bending as per OSI 004
A/R Aluminum Rod batch: M84826

1 6 DT8160220



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

QA Closed:

Date: _____

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS															
Part No. _____		Rework _____ Scrap _____ Use-as-is _____		Skid-tube _____ Machining _____ Thermoforming _____ Large Fab _____		Cross tube _____ Small Fab _____ Finishing _____ Composite _____		Water Jet _____ Prod. Eng. Coord. _____ Rec/Store/Packaging _____ Supplier _____		Engineering _____ Quality _____ Other _____									
NCR No. _____		Suspected Unapproved _____		QTY Effective : _____		MRB (QSI042) Approval													
Date : _____		Step #: _____		Disposition															
Description Work Order Deviation										Completed By									
										Lead hand / Supervisor Approval Verification									
										QC / QA Coordinator Approval									
Root Cause										FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong														
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions														
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance														
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect														
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing														
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved														
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing														
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish														
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread														
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence														
Past Expiry Date	Manufacturing Process																		
Misidentified	Past Due																		
OTHER : _____																			

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NS1

Item Name: Skidube RH, Sid Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016

Start Qty: 1.00

Cust Item ID:

Required Date: 8/24/2016

Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

9- Grind welds flush as per Dwg D2750

8/16-09-20

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

1600.22

68-6
6
SVC

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

1600.22

DAS
9
9-88

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

QA Closed: _____ Date: _____

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval _____	
Date: _____		Step #: _____		QTY Effective: _____		Completed By _____	
Description Work Order Deviation _____				Disposition _____			
Root Cause							
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong		
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions		
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance		
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect		
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved		
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing		
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish		
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread		
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence		
Past Expiry Date	Manufacturing Process						
Misidentified	Past Due						
OTHER : _____							
QC / QA Coordinator Approval _____							
Lead hand / Supervisor Approval Verification _____							

Work Order ID 150473

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Item ID: D350-636-014

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Revision ID:

N9000040100

Setup Start

N.S.1

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

N.S.2

Start Date: 8/12/2016

1

Cust Item ID:

Required Date: 8/24/2016

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number Insp.
Stamp

140 Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

150

QC7-Inspect Chemical Conversion Coat

0.00

150

QC

Memo

0.00

Quality Control

DAS
18
8-00

BEB

(X1)

2016/09/22

1 0 16-09-29

DQA: _____ Date: _____

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

[illegible]

Work Order ID 150473

Wednesday, August 24, 2016 12:01:20 PM

150473

Item ID: D350-636-014

Accept

Revision ID:

N900040100

Setup Start

NS4

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016

1

Required Date: 8/24/2016

1

Reference:

Cust Item ID:
Customer:

Approvals: Process Plan:

Date: Tooling:

Date:

Run Start

NR1

QC:

Date: SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

160

Skidubes

Skidubes

Memo

0.00

1-Open up holes using hole saw on section BE-BE 0.500" (4 per side) as per dwg D2750

2-Open holes using hole saw on section BC-BC 0.3125" (4 per side)

3-Open up holes using uni-bit of Detail AB and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

4-Chamfer holes of section BE-BE, BC-BC, AB and ground handling (welding instructions on sheet 11)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.

6-Bond web D2739 in place as per OSI 015, let cure for 12hrs.

A/R Sikaflex-291

batch:

exp. date:

ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & OSI004 (welding instructions on sheet 11)

A/R Aluminum Rod

batch: MK3V B26

8-Grind welds flush as per Dwg D2750

BE 16-10-04

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

BE 16-10-04

BE 16-10-04

BE 16-10-04

BE 16-10-04



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

DISPOSITION		AGAINST DEPARTMENT/PROCESS				MRB (QS1042) Approval	
Work Order: _____	Suspected Unapproved	Rework Scrap Use-as-is	Skid-tube Machining Thermoforming Large Fab	Cross tube Small Fab Finishing Composite	Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier	Engineering Quality Other	
Part No. _____							
NCR No. _____							
Date: _____	Step #: _____	QTY Effective : _____					
Description Work Order Deviation			Disposition				
Completed By							
Lead hand / Supervisor Approval Verification							
QC / QA Coordinator Approval							
FAULT CATEGORY							
Root Cause		Temperature/Cure			Positioned Wrong		
Environment	No Re-verification	Pressure/Forced	Set-up	Folio/Program	Outside Dimensions		
Design	Operator	Bending	BOM/Route	Grain	Over/Under tolerance		
Doc/Data	Offset/Setup	Centre Not Concentric	Broken/Damage/Defect	Weld	Part Incorrect		
Equip/Tooling	Supplier	Cracks	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing		
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Contamination	Out of Sequence	Part Moved		
Material	Use for Testing	Cuffs	Countersink	Off-set	Drawing		
Internal Transport	Poor Information	Crushing	Cut Too Short	Mislabeled	Finish		
Tribal Knowledge	Rushing	Heat Treat	Instructions Incomplete/Unclear	Fit/Function	Misread		
LOA	Product Improvement	Wave/Twist in Tube	Drill Holes	Misaligned/off center	Turning Sequence		
Substation	Process Improvement	Marks/Chatter					
Past Expiry Date	Manufacturing Process						
Misidentified	Past Due						
		OTHER :					

Work Order ID 150473

150473

Page 6

Wednesday, August 24, 2016 12:01:20 PM

Item ID: D350-636-014

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidube RH, Sid Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016

Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/24/2016

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

10-Debur holes, ensure tube is free of all scratches before sending to paint.

16-10-6511

170

QC10- Inspect visual per QSI004- ground welds

0.00

17N

QC

Memo

0.00

Quality Control

OCT 14 2016

180

QC5- Inspect part completeness to step on W/O

0.00

18N

QC

Memo

0.00

Quality Control

OCT 14 2016

190

Pressure Wash per QSI005 4.3

0.00

19N

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

124 d 10/16/16



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS											
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other					
NCR No. _____		Date: _____		Step #: _____		QTY Effective: _____				MRB (QS1042) Approval					
Description Work Order Deviation				Disposition											
												Completed By			
												Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY											
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong										
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions										
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance										
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect										
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing										
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved										
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing										
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish										
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread										
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence										
Past Expiry Date	Manufacturing Process														
Misidentified	Past Due														
				OTHER: _____											

Work Order ID 150473

Wednesday, August 24, 2016 12:01:20 PM

150473

Item ID: D350-636-014

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016

1

Cust Item ID:

Required Date: 8/24/2016

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

2000

SprayPaint

Spray Painting

Memo

0.00

1- PRIME AS PER DWG AND OSI 005 4.2
PRIMER PRC DESOTO 515X349 BATCH: 135929

2- PAINT WHITE AS PER DWG AND OSI 005 4.2
PAINT BATCH: 135621

210

2100

QC

Quality Control

OC14- Inspect Spray Paint

0.00

Memo

0.00

Inspect for foreign object per OSI 024

IRH d 2011121
DAS 15
8-88

1
16-11-20

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____		Suspected Unapproved		Rework Scrap	Skid-tube Machining	Cross tube Small Fab	Water Jet	Engineering	
NCR No.		Use-as-is		Thermoforming	Finishing	Prod. Eng. Coord. Rec/Store/Packaging	Other		
Date :	Step #:	QTY Effective :							
Description Work Order Deviation		Disposition							
Completed By									
Lead hand / Supervisor Approval Verification									
QC / QA Coordinator Approval									
FAULT CATEGORY									
Root Cause									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong				
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions				
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance				
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect				
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing				
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved				
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing				
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish				
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread				
Substation	Process Improvement	Marks/Chatter	Drill Holes	Mismatched/off center	Turning Sequence				
Past Expiry Date	Manufacturing Process								
Misidentified	Past Due								
		OTHER :							

Work Order ID 150473

Wednesday, August 24, 2016 12:01:20 PM

150473

Item ID: D350-636-014 Accept *N9000040100* Setup Start *NS1*

Revision ID: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp. Stop *NS2*

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016 Start Qty: 1.00 *1* Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 1.00 *1* Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*

QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230									

230 HandFinishing Memo 0.00 1 RH of all cells

HandFinishing 1-Install inserts as per dwg D2750

2-assemble o'ring as per dwg D3492 and apply o'ring tube
A/R 55-o'ring tube batch: M332475 12TV 590388 18/00

3-Assemble tube hardware as per dwg D2750 sikaflex batch: M36093 12/00

4-Inspect For Foreign Objects

5-Install blade fitting D3488-041, wearshoe
SIKA FLEX 241

BATCH: M1346043
EXP DATE: 1/30/09

6-Assemble o'ring to plug as per dwg D3492 and apply o'ring tube
A/R 55-o'ring tube batch: M134433

7-Coat all exposed fasteners with "LPS Procyon" batch: M137690



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

QA Closed: _____ Date: _____

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Cross tube Small Fab Finishing Composite		Skid-tube Machining Thermoforming Large Fab		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval					
Date: _____		Description Work Order Deviation		Disposition				Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			

Root Cause										FAULT CATEGORY									
Environment		No Re-verification		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong									
Design		Operator		Bending		Set-up		Folio/Program		Outside Dimensions									
Doc/Data		Offset/Setup		Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance									
Equip/Tooling		Supplier		Cracks		Broken/Damage/Defect		Weld		Part Incorrect									
Handling/Pre		Training		Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified		Wrong Stock Pulled		Part Lost/Missing									
Material		Use for Testing		Cuffs		Contamination		Out of Sequence		Part Moved									
Internal Transport		Poor Information		Crushing		Countersink		Off-set		Drawing									
Tribal Knowledge		Rushing		Heat Treat		Cut Too Short		Mislabeled		Finish									
LOA		Product Improvement		Wave/Twist in Tube		Instructions Incomplete/Unclear		Fit/Function		Misread									
Substation		Process Improvement		Marks/Chatter		Drill Holes		Misaligned/off center		Turning Sequence									
Past Expiry Date		Manufacturing Process																	
Misidentified		Past Due		OTHER: _____															

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Item ID: D350-636-014

Revision ID:

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

24N

QC

Memo

0.00

Quality Control

NOV 29 2016

250

Pick Kit

0.00

25N

Packaging

Memo

0.00

Packaging

NOV 29 2016

DAS
26 28
9-89

260

QC4- 100% Inspect kits for completeness

0.00

26N

QC

Memo

0.00

Quality Control

DEC 02 2016

DAS
27
9-89

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____
Date: _____

Date: _____

QA Closed:

Date:

Work Order:

Part No.

NCR No.

Date:

Step #:

QTY Effective:

MRB (QSI042) Approval

Description Work Order Deviation

Disposition

Completed By _____

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

Root Cause

Environment		No Re-verification
Design		Operator
Doc/Data		Offset/Setup
Equip/Tooling		Supplier
Handling/Pre		Training
Material		Use for Testing
Internal Transport		Poor Information
Tribal Knowledge		Rushing
LOA		Product Improvement
Substation		Process Improvement
Past Expiry Date		Manufacturing Process
Misidentified		Past Due

OTHER:

FAULT CATEGORY[illegible]

Work Order ID 150473

Wednesday, August 24, 2016 12:01:20 PM

150473

Page 10

Item ID: D350-636-014
Revision ID:

Accept

N900040100

Setup Start

NS1

Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Stop

NS2

Start Date: 8/12/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

270

Packaging

Packaging

Memo

Packaging

Package as per PPP D350-636-014

LOCATION: FG072

280

280

QC21- Final Inspection - Work Order Release

QC

Memo

Quality Control

DEC 02 2016

DAS 27 9-89

DAS 28 9-89

DAS 21 9-89

DEC 02 2016

DAS 21 9-89

DEC 02 2016



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Date : _____		Description Work Order Deviation		Disposition		Completed By					
Work Order: _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Date : _____		Description Work Order Deviation		Disposition		Completed By					
						Lead hand / Supervisor Approval Verification					
						QC / QA Coordinator Approval					

Root Cause		FAULT CATEGORY											
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing								
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish								
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread								
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								
Past Expiry Date	Manufacturing Process												
Misidentified	Past Due												
OTHER : _____													

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	AGAINST DEPARTMENT/PROCESS	MRB (QS1042) Approval _____
Date: _____ Step #: _____		QTY Effective: _____	
Description Work Order Deviation		Disposition	
Root Cause		FAULT CATEGORY	
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐
		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____			
Completed By		QC / QA Coordinator Approval	

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

AN3CGA

Purchased

No

230

Each

266,0000

4

4

AN3CGA

Bolt

Location

Loc Qty

Loc Code

RG

122416

10

10

M135704

44

FP001

m128769

44

m133363

4

m133990

5

m134502

13

m134762

18

OVER002

m135442

100

ST338a

m133077

6

m128704

31

m132767

2

m133694

1

m134502

72

AN6C44A

Purchased

No

230

Each

349,0000

4

4

AN6C44A

Bolt

Location

Loc Qty

Loc Code

FP001

131649

61

m130863

50

m132522

9

over009

m132556

246

ST333

m131946

42

M135714

44

all included

all included

Wednesday, August 24, 2016 12:01:19 PM

Shop Packet Print

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework Scrap Use-as-is Suspected Unapproved		AGAINST DEPARTMENT/PROCESS Skid-tube Machining Thermoforming Large Fab Cross tube Small Fab Finishing Composite Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Description Work Order Deviation				Disposition							
Completed By				Lead hand / Supervisor Approval Verification							
								QC / QA Coordinator Approval			

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidtube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased

No

250

Each

72.0000

2

2

AN8C21A

Bolt

Location

Loc Qty

Loc Code

FG

123966

m132169

4

2

2

2

30

30

38

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4

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4

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DQA: _____ Date: _____

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		AGAINST DEPARTMENT/PROCESS Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
Date : _____ Step #: _____		QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
DISPOSITION Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite	
Root Cause		FAULT CATEGORY		Positioned Wrong Outside Dimensions Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Drawing Finish Misread Turning Sequence	
Environment Design Doc/Data Equip/Tooling Handling/Pre Material Internal Transport Tribal Knowledge LOA Substation Past Expiry Date Misidentified		Pressure/Forced Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Wave/Twist in Tube Marks/Chatter		Power Loss/Surge Folio/Program Grain Weld Wrong Stock Pulled Out of Sequence Off-set Mislabeled Fit/Function Misaligned/off center	
No Re-verification Operator Offset/Setup Supplier Training Use for Testing Poor Information Rushing Product Improvement Process Improvement Manufacturing Process Past Due		Temperature/Cure Set-up BOM/Route Broken/Damage/Defect Inspection Incomplete/Unqualified Contamination Countersink Cut Too Short Instructions Incomplete/Unclear Drill Holes		OTHER : _____	
Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval		Lead hand / Supervisor Approval Verification	

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 130473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidube RH, Sid Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Start Qty: 1.00

Required Date: 8/24/2016

Required Qty: 1.00

D2600-3-BENT-RH

Manufactured No

110

Each

4.0000

1 1

D2600-3-BENT-RH

Extrusion Bent RH

Location

LG002

147616

Loc Qty

4

Loc Code

160

Each

9.0000

1 1

D2739

Manufactured No

D2739

350 I Beam

Location

LG002

147615

148593

Loc Qty

9

Loc Code

250

Each

39.0000

1

1

D2741

Manufactured No

D2741

Replacement Blade

Location

FG

131616

ST538

132981

145632

Loc Qty

10

10

29

15

14

Loc Code

160

Each

106.0000

8

8

D2743

Manufactured No

D2743

Crossbolt Spacer

Location

LG001

147561

Loc Qty

106

106

Loc Code

**

8

8

DAS
27
9-89

NOV 29 2016

B148028

DAS
26
9-89

B160489 x 1

B16-01-29

B148595 x 1

B16-01-29

B161610-03

B148576 x 8



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____ Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Cross tube Small Fab Finishing Composite		Skid-tube Machining Thermoforming Large Fab		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____											
Date: _____		Step #: _____		QTY Effective: _____						MRB (QSI042) Approval	
Description Work Order Deviation											
Disposition											
Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval											
Root Cause						FAULT CATEGORY					
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
OTHER: _____											

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____
 QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval ☐	
Date: _____ Step #: _____		QTY Effective: _____		Disposition		Completed By	
Description Work Order Deviation		Disposition		Disposition		Lead hand / Supervisor Approval Verification	
Disposition		Disposition		Disposition		QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY																																	
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Design	Operator	Set-up	Folio/Program	Outside Dimensions	Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance	Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect	Part Lost/Missing	Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Out of Sequence	Part Moved	Internal Transport	Use for Testing	Poor Information	Off-set	Drawing	Finish	Misread	Turning Sequence
Tribal Knowledge	Product Improvement	Bending	Contamination	Power Loss/Program	Over/Under tolerance	Material	Cracks	Countersink	Weld	Part Lost/Missing	Material	Cracks	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Out of Sequence	Part Moved	Internal Transport	Use for Testing	Poor Information	Off-set	Drawing	Finish	Misread	Turning Sequence	LOA	Process Improvement	Heat Treat	Wave/Twist in Tube	Instructions Incomplete/Unclear	Misaligned/off center					
Substation	Process Improvement	Crushing	Heat Treat	Power Loss/Program	Over/Under tolerance	Substation	Wave/Twist in Tube	Countersink	Weld	Part Lost/Missing	Material	Cracks	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Out of Sequence	Part Moved	Internal Transport	Use for Testing	Poor Information	Off-set	Drawing	Finish	Misread	Turning Sequence	LOA	Process Improvement	Heat Treat	Wave/Twist in Tube	Instructions Incomplete/Unclear	Misaligned/off center					
Past Expiry Date	Manufacturing Process	Wave/Twist in Tube	Heat Treat	Power Loss/Program	Over/Under tolerance	Past Expiry Date	Wave/Twist in Tube	Countersink	Weld	Part Lost/Missing	Material	Cracks	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Out of Sequence	Part Moved	Internal Transport	Use for Testing	Poor Information	Off-set	Drawing	Finish	Misread	Turning Sequence	LOA	Process Improvement	Heat Treat	Wave/Twist in Tube	Instructions Incomplete/Unclear	Misaligned/off center					
Misidentified	Past Due	Marks/Chatter	Drill Holes	Power Loss/Program	Over/Under tolerance	Misidentified	Marks/Chatter	Drill Holes	Power Loss/Program	Over/Under tolerance	Material	Cracks	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Out of Sequence	Part Moved	Internal Transport	Use for Testing	Poor Information	Off-set	Drawing	Finish	Misread	Turning Sequence	LOA	Process Improvement	Heat Treat	Wave/Twist in Tube	Instructions Incomplete/Unclear	Misaligned/off center					



DQA: _____ Date: _____
QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				MRB (QS1042) Approval						
Date: _____		Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier						
Step #: _____		QTY Effective: _____		QTY Effective: _____		QTY Effective: _____		QTY Effective: _____						
Description Work Order Deviation				Disposition				Completed By						
								Lead hand / Supervisor Approval Verification						
								QC / QA Coordinator Approval						
Root Cause				FAULT CATEGORY										
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Outside Dimensions	Over/Under tolerance	Part Incorrect	Part Lost/Missing	Part Moved	Drawing	Finish	Misread	Turning Sequence
Design	Operator	Bending	Set-up	Folio/Program				Grain						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Broken/Damage/Defect				Weld						
Equip/Tooling	Supplier	Cracks	Inspection Incomplete/Unqualified					Wrong Stock Pulled						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Contamination	Out of Sequence				Off-set						
Material	Use for Testing	Cuffs	Countersink	Mislabeled				Fit/Function						
Internal Transport	Poor Information	Crushing	Cut Too Short					Misaligned/off center						
Tribal Knowledge	Rushing	Heat Treat	Instructions Incomplete/Unclear											
LOA	Product Improvement	Wave/Twist in Tube	Drill Holes											
Substation	Process Improvement	Marks/Chatter												
Past Expiry Date	Manufacturing Process													
Misidentified	Past Due													
OTHER: _____														

DQA: _____ Date: _____

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework Scrap Use-as-is Suspected Unapproved		AGAINST DEPARTMENT/PROCESS Skid-tube Cross tube Water Jet Machining Small Fab Prod. Eng. Coord. Thermoforming Finishing Rec/Store/Packaging Large Fab Composite Supplier Engineering Quality Other	
Date : _____		Step #: _____		QTY Effective : _____	
Description Work Order Deviation		Disposition		MRB (QSI042) Approval	
_____		_____		Completed By	
_____		_____		Lead hand / Supervisor Approval Verification	
_____		_____		QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY											
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing								
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish								
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread								
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								
Past Expiry Date	Manufacturing Process												
Misidentified	Past Due												
		OTHER :											

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

230 Each

145.0000

3 3

D3537-1

**

all 12/11/12

Wearpad

Location

Loc Qty

Loc Code

FG

14

79833

4

88562

10

FP001

130

141922

7

146064

33

147593

58

148732

32

ST184

1

125911

1

Manufactured No

230 Each

187.0000

8

8

D3631-1
D3631-1

**

all 12/11/12

Washer

Location

Loc Qty

Loc Code

FP001

187

147068

87

148837

100

230

Each

24.0000

1

1

D3791-1
D3791-1

**

all 12/11/12

Wearpad

Location

Loc Qty

Loc Code

FP002

24

145807

4

147444

8

148677

12

Wednesday, August 24, 2016 12:01:19 PM

Shop Packet Print

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Water Jet ☐ Engineering ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Composite ☐ Supplier ☐				MRB (QSI042) Approval	
Date: _____ Step #: _____		QTY Effective : _____		Disposition				Completed By	
Description Work Order Deviation		_____				Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY							
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong				
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions				
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance				
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect				
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing				
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved				
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing				
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish				
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread				
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence				
Past Expiry Date	Manufacturing Process								
Misidentified	Past Due								
OTHER :									

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230 Each

21.0000

1 1

D3793-1

Wearplate Pwd

all 1611121

Location

Loc Qty

Loc Code

FP002

142832

148647

21

11

10

D3793-3

Manufactured No

230 Each

21.0000

1 1

D3793-3

Wearplate Aft

all 1611122

Location

Loc Qty

Loc Code

FP002

142816

148620

21

11

10

D3794-1

Manufactured No

230 Each

18.0000

1 1

D3794-1

Gasket Pwd

all 1611122

Location

Loc Qty

Loc Code

FP001

142770

147682

18

2

16

D3794-3

Manufactured No

230 Each

15.0000

1 1

D3794-3

Gasket Aft

all 1611122

Location

Loc Qty

Loc Code

FP001

147325

15

15

B150612

all



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Work Order: _____	Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
Part No. _____		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
NCR No. _____		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Date: _____	Step #: _____	Supplier ☐			
Description Work Order Deviation		QTY Effective : _____			
Disposition		MRB (QSI042) Approval			
Completed By		Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval		QC / QA Coordinator Approval			

FAULT CATEGORY									
Root Cause		Fault Category							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidtube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

MS21043-6

Purchased No

230 Each

121.0000

4 4

MS21043-6

NUT

**

201 1611121

Location

Loc Qty

Loc Code

FG 103693

20

FP001

37

FP001

1

ST302

36

ST302

64

ST302

34

ST302

30

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

ST302

20

Purchased No

230 Each

74.0000

1 1

MS21083C8

Nut

**

201 1611121

Location

Loc Qty

Loc Code

FP001

11

FP001

11

ST297

63

ST297

2

ST297

16

ST297

25

ST297

20

M135603

21



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				MRB (QSI042) Approval	
Date: _____		Step #: _____		QTY Effective: _____					
Description Work Order Deviation		Disposition							
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong				
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions				
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance				
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect				
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing				
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved				
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing				
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish				
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread				
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence				
Past Expiry Date	Manufacturing Process								
Misidentified	Past Due								
		OTHER: _____							

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Page 11

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidtube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

250

Each

74.0000

2

2

MS21083C8
Nut

DAS DAS
26 28
9-89 9-89

NOV 29 2016

DAS
27
9-89

NAS1149C0332R

Purchased

No

230

Each

5,204.000

38

38

NAS1149C0332R
WASHER

38 16111-21

Location

Loc Qty

Loc Code

FP001

m135046

190

190

GA

m133284

141

141

ST260a

m135408

1000

1000

m135466

1000

1000

ST266

m134736

873

2873

m135274

2000

2000

NAS1149C0832R

Purchased

No

230

Each

37.0000

1

1

NAS1149C0832R
Washer

38 16111-21

Location

Loc Qty

Loc Code

FP001

m125807

37

37

m125807

37

37

37

37

Wednesday, August 24, 2016 12:01:19 PM

Shop Packet Print

Page 11

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____		Date: _____		Work Order update only	
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Water Jet ☐ Engineering ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Composite ☐ Supplier ☐	
Date: _____		Step #: _____		MRR (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due	OTHER :									

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Page 12

Work Order ID: 150473

Parent Item: D350-636-014

Parent Item Name: Skidtube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

150473
D350-636-014

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased

No

250

Each

464.0000

2

2

NAS1149D0863J

Washer

Location

Loc Qty

Loc Code

FP001

125484

47

ST260a

125635

100

ST263

125268

317

NAS1515H3L

Purchased

No

230

Each

139.0000

4

4

NAS1515H3L

Washer

Location

Loc Qty

Loc Code

FG

102472

40

FP001

m127831

95

m134508

75

ST266

m130726

4

NAS1611-005

Purchased

No

230

Each

344.0000

8

8

NAS1611-005

O-RING

Location

Loc Qty

Loc Code

FP001

m129198

344

m133498

11

m134816

113

m135465

120

m135465

100

Wednesday, August 24, 2016 12:01:19 PM

Shop Packet Print

Page 12



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework Scrap Use-as-is Suspected Unapproved		Cross tube Small Fab Finishing Composite		Skid-tube Machining Thermoforming Large Fab		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier		Engineering Quality Other	
NCR No. _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QS1042) Approval					
Description Work Order Deviation		Disposition									
Work Order: _____		Completed By									
Part No. _____		Lead hand / Supervisor Approval Verification									
NCR No. _____		QC / QA Coordinator Approval									

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
OTHER : _____											

Picklist Print

Wednesday, August 24, 2016 12:01:19 PM

Work Order ID: 150473

150473

Parent Item: D350-636-014

D350-636-014

Parent Item Name: Skidube RH, Std Wearplates, DART (Apical) Tri-Bag/Air Cruisers Float Comp.

Start Date: 8/12/2016

Required Date: 8/24/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

202.0000

8

8

NAS1611-010

**

O-RING

Location

Loc Qty

Loc Code

FP001

m130770

202

1A135603

X0

m131618

55

12

m134593

2

m134955

100

m135297

33



DQA: _____ Date: _____

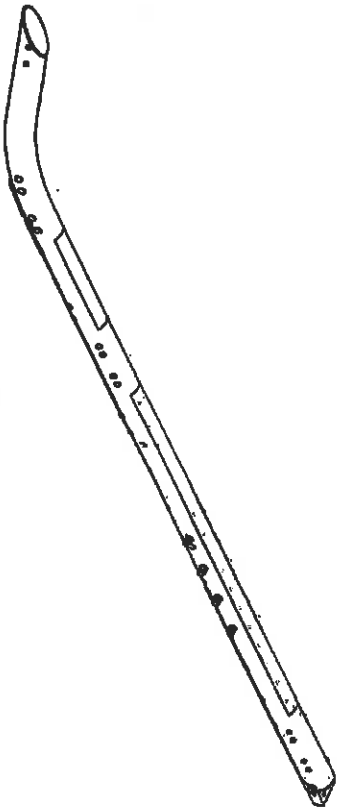
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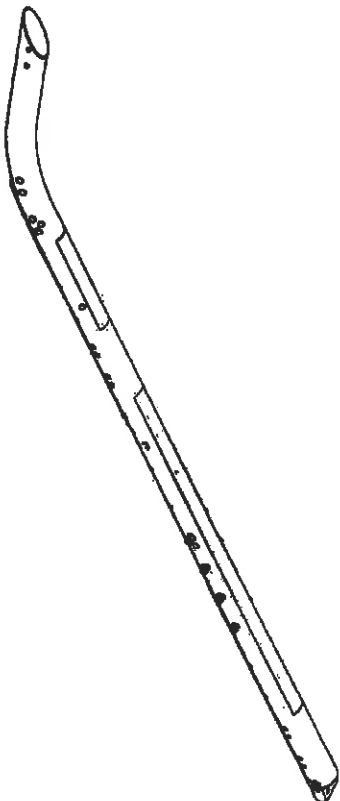
Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS															
		Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Machining Thermoforming Large Fab		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier		Engineering Quality Other									
Date : _____		Step #: _____		QTY Effective : _____		MRB (Q51042) Approval													
Description Work Order Deviation				Disposition															
												Completed By							
												Lead hand / Supervisor Approval Verification							
												QC / QA Coordinator Approval							
Root Cause				FAULT CATEGORY															
Environment				Pressure/Forced				Temperature/Cure				Power Loss/Surge				Positioned Wrong			
Design				Bending				Set-up				Folio/Program				Outside Dimensions			
Doc/Data				Centre Not Concentric				BOM/Route				Grain				Over/Under tolerance			
Equip/Tooling				Cracks				Broken/Damage/Defect				Weld				Part Incorrect			
Handling/Pre				Crimp/Kink/Ripple/Wave				Inspection Incomplete/Unqualified				Wrong Stock Pulled				Part Lost/Missing			
Material				Cuffs				Contamination				Out of Sequence				Part Moved			
Internal Transport				Crushing				Countersink				Off-set				Drawing			
Tribal Knowledge				Heat Treat				Cut Too Short				Mislabeled				Finish			
LOA				Wave/Twist in Tube				Instructions Incomplete/Unclear				Fit/Function				Misread			
Substation				Marks/Chatter				Drill Holes				Misaligned/off center				Turning Sequence			
Past Expiry Date																			
Misidentified																			
Manufacturing Process																			
Past Due																			
OTHER : _____																			



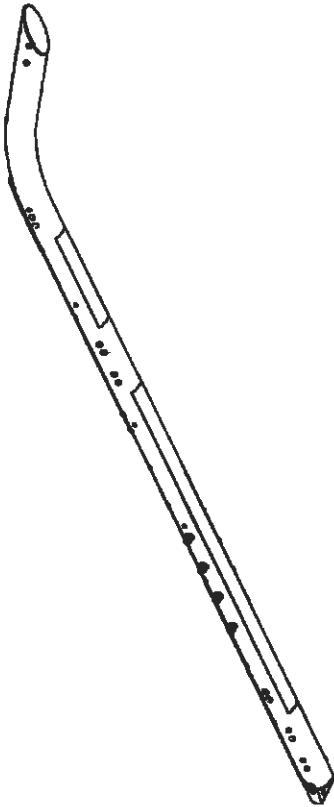
D2750-041 350 SKIDTUBE ASSEMBLY, LH



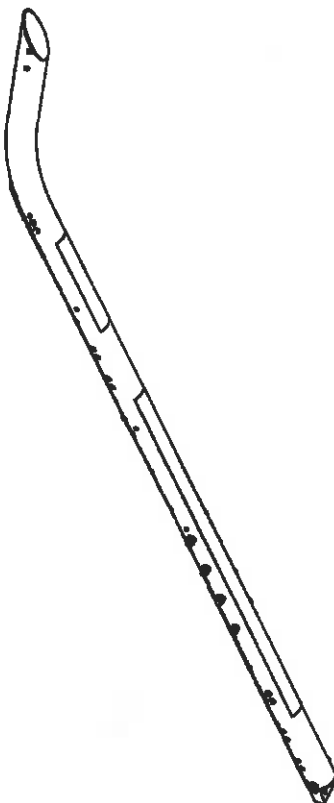
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2013-08-13
JMD

DESIGN	DATE	13.07.11	350 SKIDTUBE ASSEMBLY
DRAWN	DATE	13.07.11	350 SKIDTUBE ASSEMBLY
CHECKED	DATE	13.07.11	350 SKIDTUBE ASSEMBLY
APPROVED	DATE	13.07.11	350 SKIDTUBE ASSEMBLY
DESIGNED	DATE	13.07.11	350 SKIDTUBE ASSEMBLY
DART AEROSPACE USA, INC.		DART AEROSPACE USA, INC.	
RENT, WA		RENT, WA	
DRAWING NO.		D2750	
REV. 0		SHEET 2 OF 11	
SCALE		NBS	
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D2750-043 350 SKIDTUBE ASSEMBLY, LH



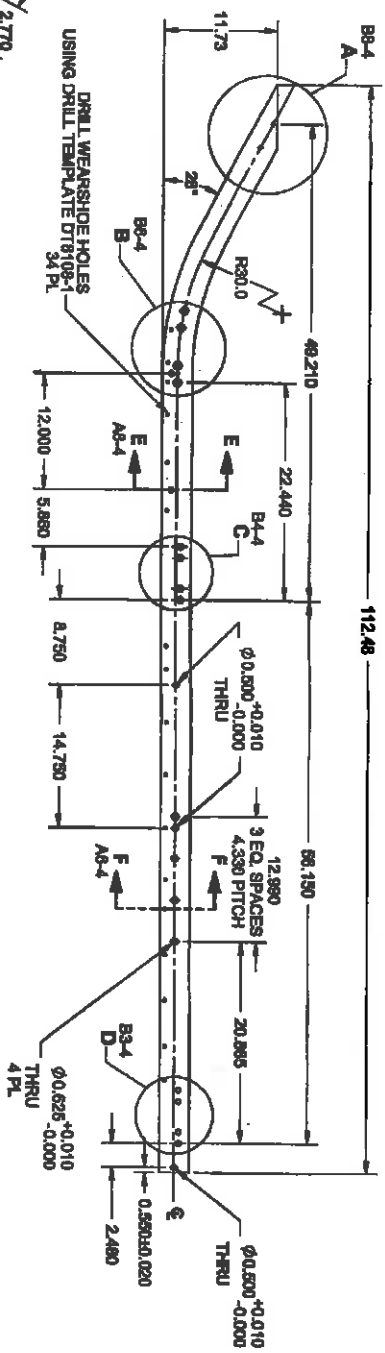
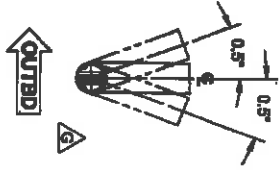
D2750-044 350 SKIDTUBE ASSEMBLY, RH

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2013-08-13
NAD

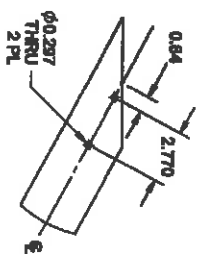
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DRAWN	BY		IDENT, WA
CHECKED	BY		DRAWING NO.
WFO, APPR.	BY		D2750
APPROVED	BY		REV. 0
DE APPR.	BY		SHEET 3 OF 11
DATE	13.07.11		SCALE
			NTS

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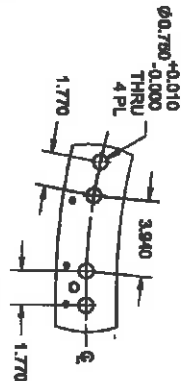
MAX ALLOWABLE
TWIST ON RND BEAD
(VIEWED LOOKING FROM)



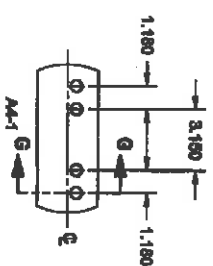
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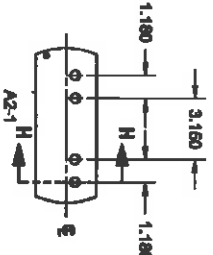
DETAIL A
D7-4
SCALE 2X



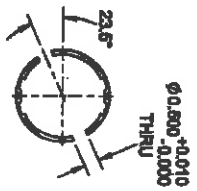
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D7-4
SCALE 2X



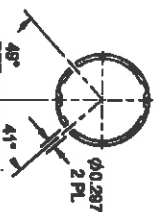
DETAIL C
D5-4
SCALE 2X



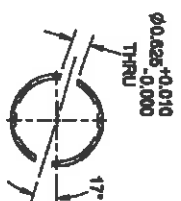
DETAIL D
D3-4
SCALE 2X



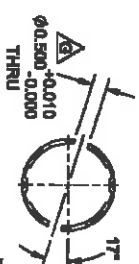
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D6-4
SCALE 3X 7/8"



SECTION F-F
D4-4
SCALE 3X 7/8"



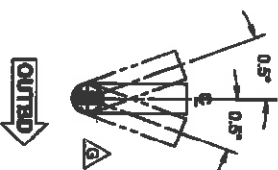
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B4-4
SCALE 3X 7/8"



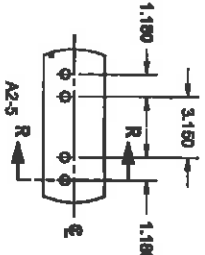
SECTION H-H
B2-4
SCALE 3X 7/8"

DESIGN	W-4	DART AEROSPACE USA, INC.
DRAWN		IDENT. WA
CHECKED		DRAWING NO.
WFO. APPR.		D2760
APPROVED		REV. G
DE APPR.		BRWET 4 OF 11
DATE	13.07.11	360 SKIDTUBE ASSEMBLY
		SCALE
		NIB

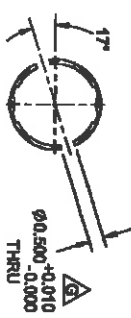
RELEASED
2013-08-13
JND



DEZKOD-2 RH SKIDTU8E



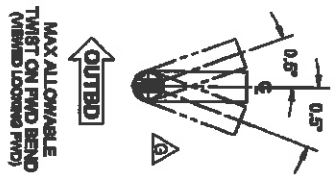
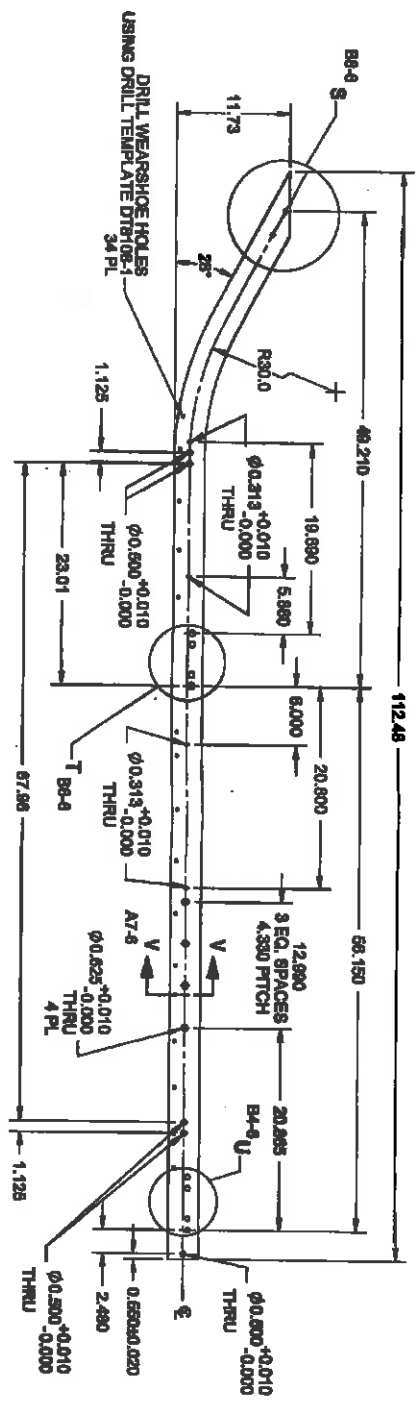
C3-5
~~DETAIL M~~
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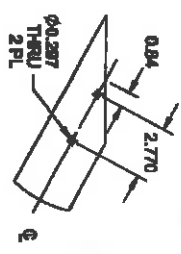
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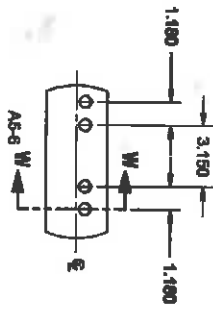
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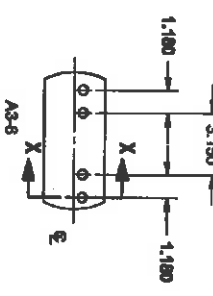
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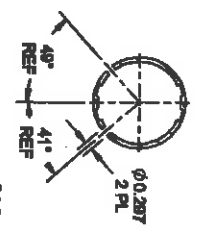
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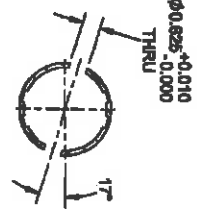
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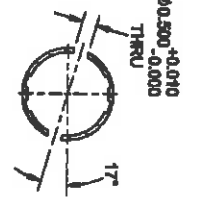
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D8-6
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SECTION V-V
C4-6
SCALE 3X 17 PL



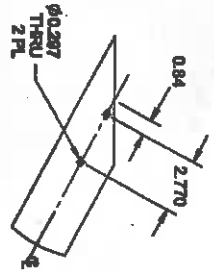
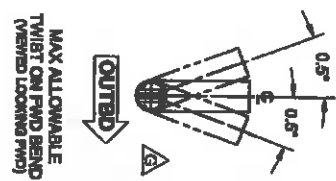
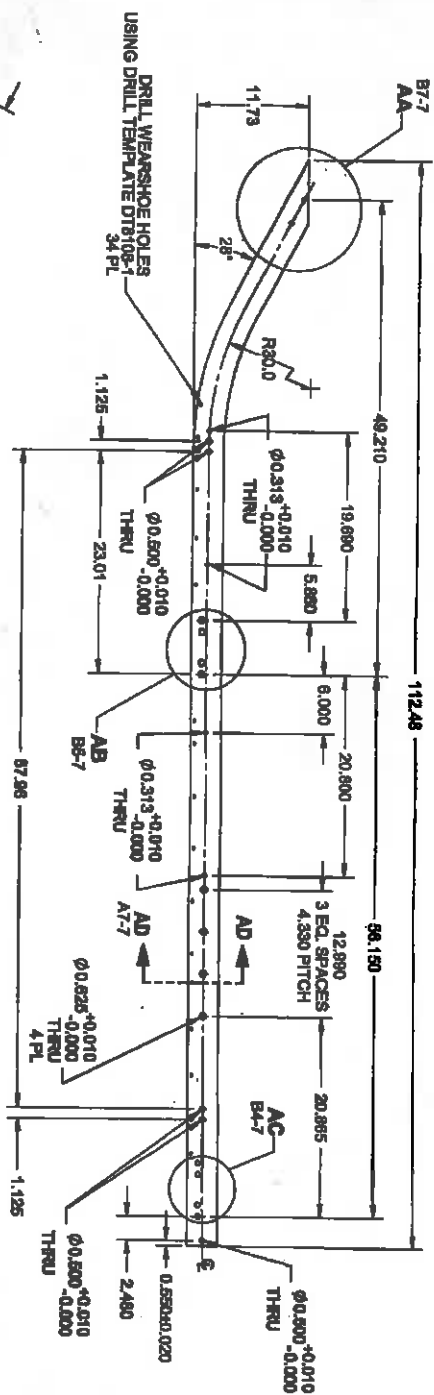
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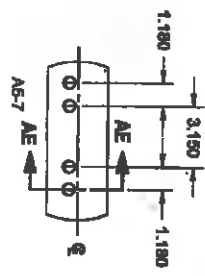
SECTION X-X
B4-6
SCALE 3X 4 PL

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APPROVED	MM	D2750
DATE	13.07.11	360 SKIDTUBE ASSEMBLY
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		NTS

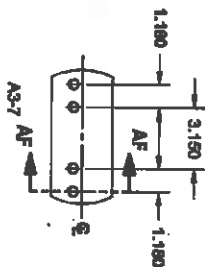
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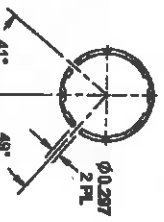
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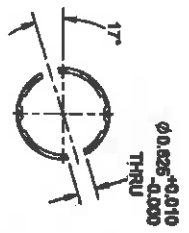
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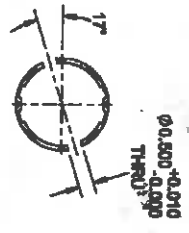
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SECTION AD-AD
SCALE 3X, 4 PL
D3-7



SECTION AE-AE
SCALE 3X, 4 PL
B6-7



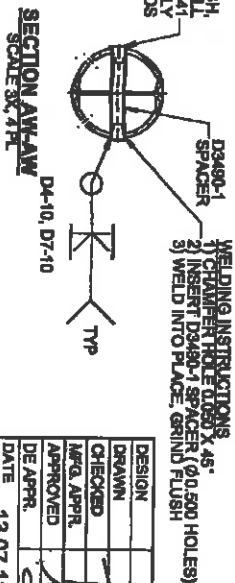
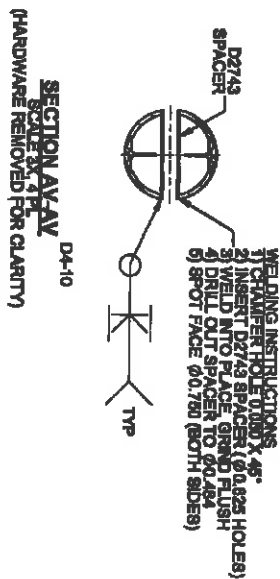
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WFG. APPR.	DAW		
APPROVED	DAW		
DE APPR.	DAW		
TITLE	350 SKIDTUBE ASSEMBLY		
REV. 0	D2750		
REV. 1	SHEET 7 OF 11		
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CHECKED	MM	DRAWING NO.	REV. G
MFG. APRIL	MM	D27/50	SHEET 00 OF 11
APPROVED	MM	TITLE	SCALE
DE APRIL	MM	350 SKIDTUBE ASSEMBLY	
DATE	13.07.11	COMPANY OF DART AEROSPACE USA, INC. 10000 15TH AVENUE S.W. SUITE 100 NORTH BEND, WA 98061-1000 PHONE (206) 835-1000 FAX (206) 835-1001	

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AND

DART AEROSPACE USA, INC.	
DESIGN	N/A
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MFG. APPR.	[Signature]
APPROVED	[Signature]
DE APPR.	[Signature]
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DRAWING NO.	REV. G
D2760	SHEET 1 OF 11
TITLE	SCALE
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